





Southwestern Bell Mobile Systems, LLC

500 Enterprise Drive

Rocky Hill, Connecticut 06067-3900

Phone: (860) 513-7636 Fax: (860) 513-7190

Steven L. Levine
Real Estate Consultant

January 28, 2003

Follow-up Structural Analyses Per Conditional Approvals

During the preceding months, the Council has given conditional approval to a number of exempt modification notices in connection with Cingular's GSM upgrade project. The Council is requiring certification that specified tower tests and/or repairs have been made prior to installation of Cingular's new equipment in some instances. This letter addresses the resolution of one or more of these conditions.

Attached are passing structural or other information for the following 5 towers in satisfaction of Council conditions of approval:

• 26 Washington Street, New London - EM-CING-095-021212

Siting Council approval was conditioned on removal of existing horn antennas or other heavy equipment in conformance with a structural letter dated 12/5/02 from Bayar Engineering to O2 Wireless. On December 18, 2002, the horn antennas were successfully removed. A sworn affidavit from SBMS Senior Construction Manager Peter W. van Wilgen concerning removal of the horn antennas is attached.

• 405 Brush Plain Road, Branford - EM-CING-014-020917

Siting Council approval was conditioned on reinforcement of the tower and determination that the tower and foundation are structurally adequate to support the proposed loading. A P.E.-certified letter from SpectraSite is attached confirming tower modifications and structural sufficiency.

• 820 Enfield Street, Enfield – EM-CING-049-020930

Council approval was conditioned on reinforcement per recommendation of a SpectraSite structural analysis. A P.E- certified structural letter from SpectraSite is attached confirming tower reinforcement and structural sufficiency.

40 Taugwonk Road, Stonington – EM-CING-137-020925

Council approval was conditioned on reinforcement per recommendation of a SpectraSite structural analysis. A P.E- certified structural letter from SpectraSite is attached confirming tower reinforcement and structural sufficiency.

77 Pease Road, Woodbridge – EM-CING-167-020917

Council approval was conditioned on reinforcement per recommendation of a SpectraSite structural analysis. A P.E- certified structural letter from SpectraSite is attached confirming tower reinforcement and structural sufficiency.

Please feel free to call Steve Levine at (860) 513-7730 with questions concerning this matter. Thank you for your consideration.

Milli

AFFIDAVIT

STATE OF CONNECTICUT)		
)	SS:	ROCKY HILL
COUNTY OF HARTFORD)		

Peter W. van Wilgen personally appeared before me and, after being duly sworn, deposes as follows:

- 1. I am a resident of Clinton, Connecticut.
- 2. I am employed as Senior Construction Manager by Southwestern Bell Mobile Systems, LLC with an office at 500 Enterprise Drive, Rocky Hill, CT 06067.
- 3. On December 18, 2002 I personally observed the complete and successful removal of two KS15676 horn antennas from the SNET telecommunications tower at 26 Washington Street, New London, CT. Antenna removal was performed by Chris Hungerford Tower and Antenna of Beacon Falls, CT.
- 4. To the best of my knowledge and belief, the 26 Washington Street, New London, tower was on that date in compliance with the structural analysis letter dated December 5, 2002 from Bayar Engineering Corp. to O2 Wireless Solutions.

Signature of Affiant

Subscribed and sworn to before me this **20**7//day of January, 2003.

Steven L. Levine

Commissioner of the Superior Court



CT-0020 [Branford] # 2015

Structural Evaluation of 151.4' ITT Meyer Monopole

405 Brushy Plain Road Branford, CT 06405 New Haven County

Further to the reinforcing details performed by SpectraSite Engineering, dated October 7, 2002, the proposed Cingular antennas, the transmission lines and reinforcing have been properly installed on the tower. The installation meets the requirements of the TIA/EIA-222-F Standard for a basic wind speed of 85 mph without ice and 75% of the wind load with ½ radial ice.

Table 1. Existing Antennas

Elevation (Ft A.G.L.)	Antonno		Transmission Lines	Notes
159	(1) Omni		(1) 1-5/8"	
156	(1) Yagi		(1)1/2"	
153	(6) CSS DUO14178686-4-0	Cingular	(9) 7/8"	Existing
153	(6) ADC Amplifiers	Ů	``	
	on Platform Mount with Handrails			ļ
113	(9) Decibel DB844H80-XY	Verizon	(0) 1 1/42	Painting
113	on T-Arm Mounts	Verizon	(9) 1-1/4"	Existing
103	(1) Decibel Dipole	Town	(1)7/8"	Evictina
105	on Standoff Mount	TOWII	(1) //0	Existing
93	(1) Decibel Dipole	Т	(1) 7/02	D. intime
20	on Standoff Mount	Town	(1) 7/8"	Existing
39	(1) Nokia CS72187.01	Cl	(1) 1/22	10-1-4
	on Standoff Mount	Cingular	(1)1/2"	Existing

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with the requirements of TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added.

Should any questions arise concerning this report please contact the undersigned.

Raphae! Mohamed, P Eng. Project Engineer 919-465-6629

Stephen Yeo. P.E. Structural Design Manager

Date: January 9, 2003

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Connecticut.



CT-0025 [ENFD-Enfield] * 1021

Structural Evaluation of 150' ITT Meyer Monopole

820 Enfield Street Enfield, CT 06082 Hartford County Date: January 9, 2003

Further to the structural analysis performed by SpectraSite Engineering, dated September12, 2002, the proposed Cingular antennas, the transmission lines and reinforcing have been properly installed on the tower. The installation meets the requirements of the TIA/EIA-222-F Standard for a basic wind speed of 80 mph without ice and 75% of the wind load with ½" radial ice.

Table 1. Existing Antennas

Elevation (Ft.A.G.L.)	Antonna		Transmission Lines	Notes
157 154 154 154	(1) Decibel 809-Y (1) Yagi (9) CSS DUO4-8670 (6) ADC Amplifiers on Platform Mount with Handrails	Cingular	(1) 1-5/8" (1) ½" (9) 7/8"	Existing
140	(6) EMS RR90-17-02DP on Low Profile Platform Mount	T-Mobile	(12) 1-5/8"	Existing
38.5 (1) Nokia CS72187.01 on Standoff Mount		Cingular	(1)1/2"	Existing

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with the requirements of TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added.

Should any questions arise concerning this report please contact the undersigned.

Raphael Mohamed, P.Eng. Project Engineer

919-465-6629

Stephen Yeo, P.E. Structural Design Manager

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly technical Professional Engineer under the laws of the State of Connecticut.



CT-0035 [SGTN-Stonington] #2.054

Structural Evaluation of 150' ITT Meyer Monopole

Date: January 9, 2003

40 Taugwonk Road

Stonington, CT 06378 New London County

Further to the *structural analysis* performed by SpectraSite Engineering, dated September17, 2002, the proposed Cingular antennas, the transmission lines and reinforcing have been properly installed on the tower. The installation meets the requirements of the TIA/EIA-222-F Standard for a basic wind speed of **85 mph** without ice and 75% of the wind load with ½ radial ice.

Table 1. Existing Antennas

Elevation (Ft. A.G.L.)	Antenna	Carrier	Transmission Lines	Notes
152 152	(9) CSS DUO-14178686-4-0 (6) ADC Amplifiers on Platform Mount with Handrails	Cingular	(9) 7/8"	Existing
114	(9) Decibel DB844H80E-XY on T-Arm Mounts	Verizon	(9) 1-1/4"	Existing
39	(1) Nokia CS72187.01 on Standoff Mount	Cingular	(1)1/2"	Existing

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with the requirements of TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added.

Should any questions arise concerning this report please contact the undersigned.

Raphael Mohamed, P.Eng.

Project Engineer 915-465-6629 Stephen Yeo, P.E.

Structural Design Many Sec.

I hereby certify that this optimizering document was prepared by the counder my direct personal supervision and that I also a difference of Professional limitator under the laws of the State of Councerica.



CT-0016 [Woodbridge] #2010

Structural Evaluation of 150' ITT Meyer Monopole

77 Pease Road

Woodbridge, CT 06525 New Haven County

Further to the *structural analysis* performed by SpectraSite Engineering, dated September12, 2002, the proposed Cingular antennas, the transmission lines and reinforcing have been properly installed on the tower. The installation meets the requirements of the TIA/EIA-222-F Standard for a basic wind speed of **85 mph** without ice and 75% of the wind load with ½" radial ice.

Table 1. Existing Antennas

Elevation (Ft. A.G.L.)	Autenna	Carrier	Transmission Lines	Notes
155 153 153	(1) 8' Onmi (6) CSS DUO-1417 (6) ADC Amplifiers on Platform Mount with Handrails	Cingular	(1) 1-5/8° (6) 7/8°	Existing
125	(3) EMS RR65-18-XXDP (3) LMU's Flush Mounted	Nextwave	(1) 2-1/4"	Existing
39	(1) Nokia CS72187.01 on Standoff Mount	Cingular	(1) ½"	Existing

The subject tower and foundation are *adequate* to support the above stated loads and *in conformance* with the requirements of TIA/EIA-222-F Standard.

The tower should be re-evaluated as future loads are added.

Should any questions arise concerning this report please contact the undersigned.

Raphael Mohamed, P.Eng.

Project Engineer 919-465-6629 Stephen Yeo, P.E.

Structural Design Manager

Date: January 9, 2003

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly been-ed Professional Engineer under the laws of the State of Connecticut.



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051 Phone: (860) 827-2935 Fax: (860) 827-2950 E-Mail: siting.council@po.state.ct.us Web Site: www.state.ct.us/csc/index.htm

October 8, 2002

Peter W. van Wilgen Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, CT 06067-3900

RE:

EM-CING-028-077-101-131-137-145-164-020925 - Southwestern Bell Mobile Systems, LLC notice of intent to modify existing telecommunications facility located in Colchester, Manchester, North Haven, Southington, Stonington, Union, and Windsor.

Dear Mr. van Wilgen:

At a public meeting held on October 7, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions: 1) that the tower and foundation in North Haven be reinforced according to the recommendations of SpectraSite Engineering and that a professional engineer certify to the Council the successful completion of these reinforcements; 2) that the tower in Stonington be reinforced according to the recommendations of SpectraSite Engineering and that a professional engineer certify to the Council the successful completion of these reinforcements; 3) that, for the Union tower, a professional engineer prepare a stability analysis of the tower foundation report and that a copy of the results of this analysis be submitted to the Council; and 4) that the wall thickness of the pipe extension on the Windsor tower be verified and replaced if necessary as per the recommendation of URS.

The proposed modifications are to be implemented as specified here and in your notice dated September 25, 2002. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility sites that would not increase tower heights, extend the boundaries of the tower site, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

This decision is under the exclusive jurisdiction of the Council. Any additional change to these facilities will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Chairman

MAG/laf

c: See attached list.

Peter W. van Wilgen EM-CING-028-077-101-131-137-145-164-020925 Page 2

List Attachment.

c: Honorable Jenny Contois, First Selectman, Town of Colchester Liz Rasmussen, Zoning Enforcement Officer, Town of Colchester Honorable Stephen T. Cassano, Mayor, Town of Manchester Thomas R. O'Marra, Zoning Enforcement Officer, Town of Manchester Richard J. Sartor, General Manager, Town of Manchester Honorable Kevin J. Kopetz, First Selectment, Town of North Haven Robert Burns, Zoning Enforcement Officer, Town of North Haven Honorable William V. DePaolo, Town Council Chairman, Town of Southington John Weichsel, Town Manager, Town of Southington Mary Hughes, Town Planner, Town of Southington Honorable Peter Dibble, First Selectman, Town of Stonington Edward Donnelly, Town Planner, Town of Stonington Honorable Albert L. Goodhall, Jr., First Selectman, Town of Union Planning and Zoning Official, Town of Union Honorable Donald Trinks, Mayor, Town of Windsor R. Leon Churchill, Jr., Town Manager, Town of Windsor Mario Zavarella, Town Planner, Town of Windsor

EM-CING-028-077-101-131-137-145-164-020925





Southwestern Bell Mobile Systems, LLC

500 Enterprise Drive

Rocky Hill, Connecticut 06067-3900

Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

HAND DELIVERED

September 25, 2002

Mr. Mortimer A. Gelston, Chairman Connecticut Siting Council 10 Franklin Square New Britain, Connecticut 06051

Re: Southwestern Bell Mobile Systems, LLC notice of intent to modify existing telecommunications facilities located in Colchester, Manchester, North Haven, Southington, Stonington, Union, and Windsor.

Dear Mr. Gelston:

In order to accommodate technological changes, implement E-911 capability and enhance system performance, Southwestern Bell Mobile Systems, LLC ("SNET" or "Cingular Wireless"; formerly SNET Mobility, LLC) plans to modify the antenna configurations at its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of each of the municipalities in which an affected cell site is located.

Attached are summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular's operations at each site. Also included is documentation of the structural sufficiency of each tower to accommodate the revised antenna configuration.

The changes to the facilities do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facilities will not be significantly changed or altered. Rather, the planned changes to the facilities fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

- 1. The height of the overall structure will be unaffected. At almost all sites, new panel antennas approximately the same size will replace those previously installed. Tower mount amplifiers, approximately 5" x 9" x 13", will be added to the platform on which the panel antennas are mounted to enhance signal reception at the cell site. In addition, the mandated provision of E-911 capability *may* require installation of one LMU ("location measurement unit"), approximately nine inches high, on either the tower, the equipment shelter, or the ice bridge. At this writing, however, it appears that the new panel antennas will serve this purpose as well. One GPS receive-only antenna will be attached to the equipment shelter at each site. None of the modifications will extend the height of the tower.
- 2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
- 3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
- 4. Radio frequency power density will increase due to use of additional channels broadcasting at higher power. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, Cingular Wireless respectfully submits that the proposed changes at the referenced sites constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7730 with questions concerning this matter. Thank you for your consideration.

Peter W. Van Wilger SLL

Sincerely,

Peter W. van Wilgen

Senior Manager - Construction

Enclosures

CINGULAR WIRELESS Antenna Modification

Site Address:

40 Taugwonk Rd., Stonington

Docket 121

Tower Owner/Manager:

SpectraSite

Antenna configuration

Antenna center line – 152 ft

Current and/or approved: 9 Swedcom ALP 110-11 panels

Planned:

9 CSS DUO1417-8686-4-0 panels or comparable

9 tower mount amplifiers

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 4.9% of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 7.1%, or an additional 2.2% of the standard.

Cingular Current

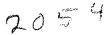
Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm ²)	Percent of Limit
Cingular	154	880 - 894	19	100	0.0288	0.5867	4.9

Cingular Planned

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm²)	Percent of Limit
Cingular TDMA	152	880 - 894	16	100	0.0249	0.5867	4.2
Cingular GSM	152	880 - 894	2	296	0.0092	0.5867	1.6
Cingular GSM	152	1930 - 1935	2	427	0.0133	1.0000	1.3
Total							7.0

Structural information:

Please see attached.







Structural Analysis of 150' ITT Meyer Monopole Sgtn-Stonington, 40 Taugwonk Road, Stonington, CT 06378

CT-0035 9/17/2002

1.0 Introduction

A structural analysis was performed on the above noted tower for the addition of proposed antennas as listed below. The analysis consisted of applying the forces caused by the existing and proposed loads, and determining the resulting stresses in the structure and its foundation.

The following criteria were used in the analysis:

1. ANSI/TIA/EIA-222-F, **85 mph** wind [New London County], considering two loading cases:

Load Case 1.

100% wind pressure, without radial ice

Load Case 2.

75% wind pressure, with 1/2" radial ice

Tower information, including geometry and member sizes was obtained from Smith-Cullum Report Number CT-0035, dated 06/01/02. Foundation information was obtained from Girard and Co. Engineers Report No. 3C230, dated 03/08/90.

2.0 Antenna and Transmission Line Loading

Table 1. Existing and Proposed Antennas

Elevation (Ft AGL)	Antenna	Carrier	Transmission Lines*	Notes
154	(9) Swedcom ALPH011 on Planform Mount with Handfails	- Cingular	(0) 7/8	Remove Existing
152	(9) GSSiDUO-14178686-440 (9) ADC TMA Ton Platform Mount with Handralls	_i Cingular	(9) 7/8°2 -	Proposed Replacement
1114	(9)(Decibel(DB844)1805-XXY on 1 Arm)Maunis	Venzon:	(9))IF(/4)	Fanging Fan ove
1114	((2))Swedom/ALPAF/901/HDIN aniExisting (LAmi/Monils	, প্রভাস্ত ।।	(02)1.1/42	lingpessed Replacement
39.	(A) Nokin S7218701 on Skudoff Mount	Clibatpu	(b)///	Riopesed

^{*} Coax installed inside monopole.



3.0 Results

Monopole Stress Levels

Elevation (Ft A.G.L.)	Combined Stress Index*
0 to 31.5	0.96
31.5 to 70	1.05**
70 to 110	1.03**
110 to 150	0.78

^{*}Maximum Stress Ratio: 1.00=Full Allowable.

Foundation Stress Levels

Base Reactions	Current Analysis	Result*
Moment (kip.ft)	1666.9	Satisfactory
Compression (kips)	15.9	Satisfactory
Shear (kips)	17.8	Satisfactory

^{*}Based on foundation analysis.

Conclusions and Recommendations

- 1. The tower, foundation and base plate are <u>structurally adequate</u> to accommodate the proposed antenna and transmission line loading used in this analysis.
- 2. The anchor bolts and flange plate at 110' are <u>not structurally adequate</u> to accommodate the existing and proposed antenna and transmission line loading used in this analysis. They are <u>structurally adequate</u> after <u>reinforcing</u> per the attached Drawing CT-0035-M1.
- 3. Any future changes in loading must be reviewed by the SpectraSite Engineering Department.

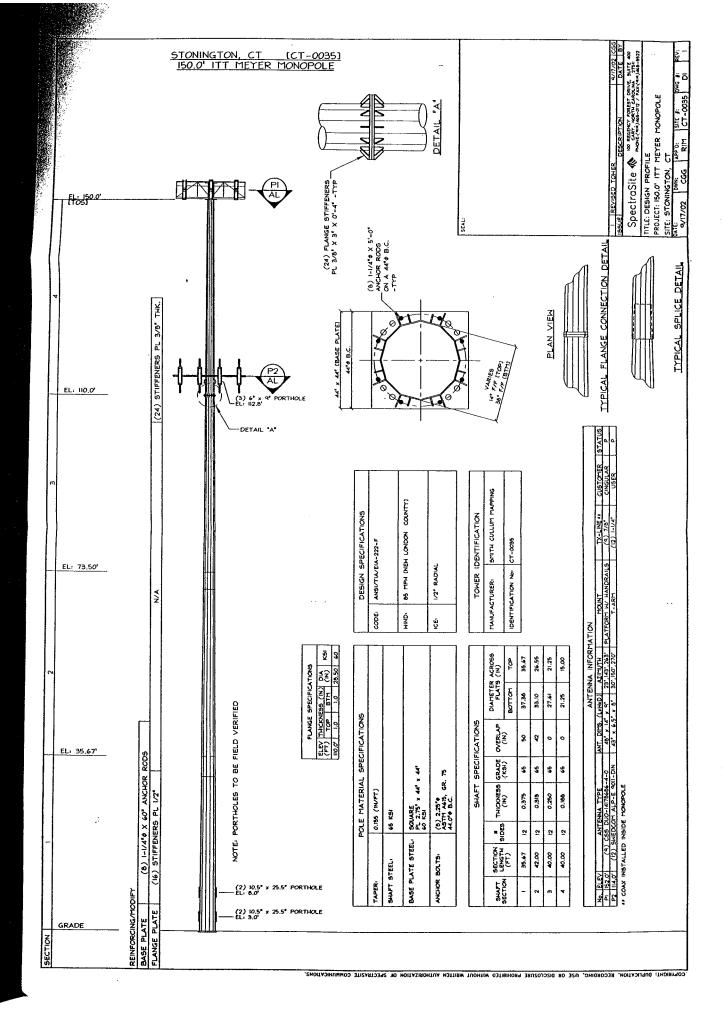
Should any questions arise concerning this report please contact the undersigned.

Raphael Mohamed, P.Eng.

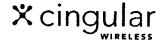
Project Engineer 919-465-6629

Calvin J Payne, P.E. Chief Engineer

^{**}Overstressed; Considered acceptable.







Southwestern Bell Mobile Systems, LLC

500 Enterprise Drive Rocky Hill, Connecticut 06067-3900

Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

September 25, 2002

Hon. Peter N. Dibble 1st Selectman, Town of Stonington Town Hall, 152 Elm St. Stonington, CT 06378

Re: Telecommunications facility - Taugwonk Rd.

Dear Mr. Dibble:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless ("SBMS" or "Cingular"; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, small amplifiers and a small locator unit on the tower. As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Cingular's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter fully describes Cingular's proposal. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (860) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Poter W. von Wilger SEL

Peter W. van Wilgen

Senior Manager - Construction

Enclosure



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051 Phone: (860) 827-2935 Fax: (860) 827-2950 E-Mail: siting.council@po.state.ct.us Web Site: www.state.ct.us/csc/index.htm

September 25, 2002

Honorable Nicholas H. Mullane, II First Selectman Town of North Stonington Town Hall 40 Main Street North Stonington, CT 06359

RE:

EM-CING-028-077-101-131-137-145-164-020925 – Southwestern Bell Mobile Systems, LLC notice of intent to modify existing telecommunications facility located in Colchester, Manchester, North Haven, Southington, Stonington, Union, and Windsor.

Dear Mr. Mullane:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting tentatively scheduled for October 7, 2002, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,

S Derek Phelps Executive Director

SDP/slm

Enclosure: Notice of Intent

e: Liz Rasmussen, Senior Planning & Zoning Official, Town of North Stonington